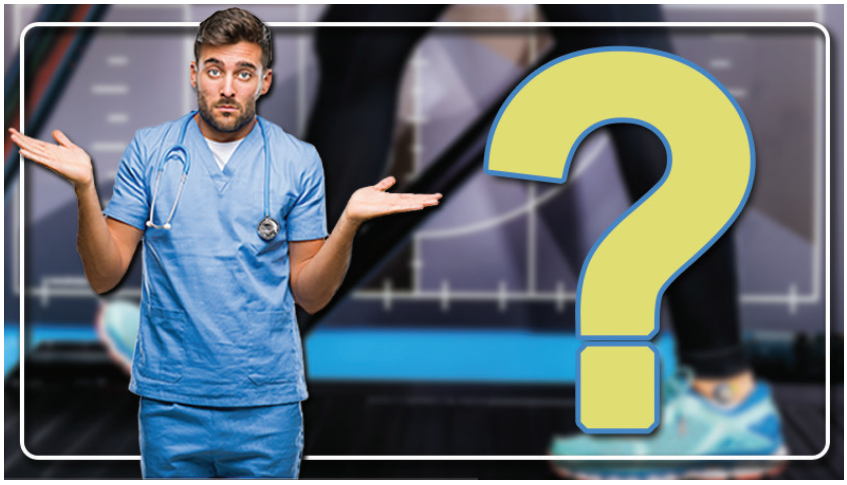
BY JARROD SHAPIRO, DPM

Why Are Podiatry School Graduates Not Grasping Biomechanics?

Incorporating this topic is a shared responsibility.

Practice Perfect is a continuing every-issue column in which Dr. Shapiro offers his unique personal perspective on the ins and outs of running a podiatric practice.



Among the applicants to our residency program this year, there was an almost universal weakness in biomechanical thought process.

Here in Southern California at the Chino Valley Medical Center podiatric residency, we completed our CRISP online interviews for next year's residents. It was a successful process, despite the fact they were online interviews. Interviewing someone via teleconference is definitely not the same as in person, but we all understand the necessity. We should applaud the CASPR folks for an organized process thus far. Hopefully, the match will be just as organized.

As grueling as interviews can be both for the interviewees and the interviewers, they can still be enjoyable. You can especially love finding out new and interesting aspects about our applicants. Each year, there seems to be a theme and this year the theme was biomechanics. Despite the clear intelligence, hard work, and humanism expressed by this year's applicants, there was an almost universal weakness in biomechanical thought process.

Before discussing this further, it should be pointed out that podiatric faculty at every school have been involved in teaching our students biomechanics for years. As such, faculty members become somewhat defensive to comments they commonly hear from individuals around the country who say that the colleges don't teach biomechanics (or they don't teach it well). This is a very simplistic and reductive criticism, which merits defending all of the schools.

The first issue is boards. The 2nd and 3rd year board examinations for podiatry are written by a relatively small number of individuals, and, for the biomechanics topics, test mostly Root biomechanics. This means that people who subscribe to alternative biomechanical principles still must teach this topic. It would be good to stop "teaching to the boards," but the students still need to pass them.

Second, to say biomechanics teachers "don't know how to teach" is myopic, especially since many of them have been teaching for a very long time, and some of them actual-

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ly write the board exam questions. This also puts the onus entirely on the teachers and not on the learners. Why do students not read about biomechanics principles during their clinical years? Do they not have time to read people like Kirby, Richie, and Scherer or study the many journal articles discussing these topics? How many students have read Dr. Albert's textbook?

Most teachers have yet to meet

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Biomechanics *(from page 72)*

Some of the blame falls on the rest of the podiatry community: a lack of clear available resources and ambiguity about biomechanics in general.

the student who can give a clear rationale or risk factors for hallux valgus or plantar fasciitis. We personally teach our students how to write foot orthosis prescriptions and yet some still can't seem to do this in practice.

Some of the blame goes to the students, but there's another aspect to this. Some of the blame falls on the rest of the podiatry community: a lack of clear available resources and ambiguity about biomechanics in general. Is there one single resource that clearly instructs our students what to read? ACFAS has a reading list pertaining to surgical topics. Why don't we have this for our students for biomechanics? To help, there is a list of important reading resources in the sidebar in this article. This hasn't been vetted by the community so it may not be fully comprehensive, and so apologies if the list leaves out important articles.

How can we expect our students to be clear about biomechanics when there are so many competing ideas, some with evidence and some without? This is one of the reasons to be happy to see Dr. Richie's new textbook;[1] as it collates the best evidence on fundamental biomechanics topics in a clear way.

It is hard recalling if this ever was done before. We need more of this. For example, how useful would it be if the *Journal of Foot and Ankle Surgery* published a monthly series that reviewed the best evidence on using biomechanics principles to choose surgical procedures for specific pathologies written by a group of our best biomechanics/surgical minds? Or if the *Journal of the American Podiatric Medical Association* did the same thing for orthotic therapy?

A year ago, in the *Clinics in Podiatric Medicine and Surgery,* there were several articles that would help with clinical decision-making, including an article written about surgical decision-making.[2] This issue had some top-of-the-profession contributors such as Christensen, DeHeer, and Richie, among others, provide informative articles on a variety of fundamental topics. We must provide students and residents clear and accessible resources to empower their education.

When residency interviewees respond that the purpose of a functional foot orthotic is "arch support" or they are unable to state any two orthotic modifications for the treatment of adult acquired flatfoot, then one has to conclude there's a fundamental structural problem with the entire biomechanics issue. And, like everything, it is not a simple problem with one solution. This requires resource availability, clarity of important concepts, consistent education, and practice. Until all these occur, we should continue to expect lower quality performance from our graduates. **PM**

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